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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

Jerry E. Elliott

Serial No: 10/608,290

Filed: June 27, 2003

Title: ADJUSTABLE PIPE REPAIR CLAMP
INSTALLATION TOOL

Attorney's Docket No.: 10/CIP

Confirmation No: 8523

Technology Center: 3679

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Cynthia Ortiz

CYNTHIA ORTIZ

**COMMUNICATION FOR FILING APPLICANT'S
REVISED BRIEF ON APPEAL**

Dear Sir:

In response to the Notification of Non-Compliant Appeal Brief dated July 21, 2006, Applicant hereby submits Applicant's Revised Brief on Appeal in order to comply with the requirements of 37 CFR 41.37 (c)(1)(v). More specifically, the brief has been revised to include a concise explanation of the means-plus-function recited in the last paragraphs of independent claims 1 and 21. This explanation details where in the specification and the drawings the means-plus-function is described and illustrated and lists the specific reference characters of the structures involved. The patentability of dependent claims 2, 3, 4 and 5 has been argued separately from

In re applic. of Jerry E. Elliott
Applic. No. 10/608,290
Page 2

independent claims 1 and 21, but none of these dependent claims recites means-plus-function.

Thus, none of these dependent claims is addressed in the additional information incorporated in Applicant's Revised Brief on Appeal. The additional material discussing the means-plus-function recited in independent claims 1 and 21 can be found on pages 6-8 in the brief.

Also included in Applicant's Revised Brief on Appeal is a re-typed set of pending claims from which claim modifiers have been deleted.

Applicant's Revised Brief on Appeal is believed to comply with the requirements set forth in the Notification of Non-Compliant Appeal Brief to allow this appeal to proceed.

Respectfully submitted,

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TEH/clo



BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	
)	Confirmation No: 8523
Jerry E. Elliott)	
)	Technology Center: 3679
Serial No: 10/608,290)	
)	
Filed: June 27, 2003)	
)	
Title: ADJUSTABLE PIPE REPAIR CLAMP)	
INSTALLATION TOOL)	
)	
Attorney's Docket No.: 10/CIP)	

APPLICANT'S REVISED BRIEF ON APPEAL

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Cynthia Ortiz
Cynthia Ortiz

July 31, 2006
Date

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I. Real Party in Interest

The real party in interest in this appeal is the assignee of this patent application, Cascade Waterworks Manufacturing Co., a corporation of the State of Illinois, having a place of business at 1213 Badger Street, Yorkville, Illinois 60560.

II. Related Appeals and Interferences

There are no related appeals or interferences.

III. Status of Claims

All of pending claims 1-40 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 1,445,286 to Bosco in view of U.S. Patent No. 1,619,749 to Murray.

IV. Status of Amendments

A restriction requirement issued on June 22, 2005 requiring election between the Group 1 species shown in FIGS. 1-9 and the Group 2 species shown in FIGS. 10-16. The election requirement was traversed in Amendment A filed on June 22, 2005, and the election requirement was withdrawn and original claims 1-40 were examined and rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 1,885,128 to Montgomery. Claims 1-40 were also provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1-26 of applicant's co-pending, other continuation-in-part application No. 10/701,219. Amendment B filed on September 8, 2005 amended independent claims 1 and 21 and traversed the prior art and double patenting rejections which were withdrawn.

A third Office Action issued on December 23, 2005 and included a final rejection of claims 1-40 under 35 U.S.C. §103(a) as being unpatentable over the combination of U.S. Patent Nos. 1,445,286 to Bosco and 1,619,749 to Murray. This rejection is the subject of this appeal.

V. Summary of Claimed Subject Matter

This invention relates generally to fluid carrying conduits, or pipes, and is particularly directed to a leaking pipe and a tool for facilitating the positioning of a repair clamp on the pipe for sealing off the leak. The tool is adjustable to accommodate various clamp sizes and pipe diameters.

Fluid carrying pipes are subject to leakage caused by damage or deterioration over time. Repairing a leaking pipe typically involves positioning a sealing clamp over the leak for sealing off the leak. The repair clamp is typically comprised of high strength steel and is frequently difficult to position on the pipe and draw the opposed ends of the clamp together so that the clamp is securely positioned on the pipe because of the tendency of the clamp ends to pull away from one another due to tension in the clamp. This task is also frequently made even more difficult when the leaking pipe is buried in the ground or is otherwise not readily accessible, with the space required for positioning and tightening the clamp about the leaking pipe at a premium. The difficulty in excavating along the pipe without damaging the pipe typically restricts access to the pipe and further complicates and renders more difficult the pipe sealing task. Finally, because of the leaking fluid, the underground location, and the structure of the repair clamp, the clamp installer is subject to injury.

Applicant's invention addresses these difficulties encountered in the prior art by providing a pipe repair clamp installation tool that can be operated with the use of only one hand allowing the clamp installer to use the other hand for proper positioning of the repair clamp about the leaking pipe for sealing off the leak. Once the repair clamp is properly positioned on the pipe, the installation tool securely maintains the repair clamp in position over the leak allowing for the tightening of nut and bolt combinations which draw the clamp tightly about the pipe in sealing off the leak. The installation tool is adjustable in size to accommodate a wide range of repair clamp dimensions and pipe diameters.

The invention summarized in the preceding paragraph is illustrated in FIGS. 10-16 and is described in the specification on pages 13-19 as well as in the Abstract of the Disclosure and Objects of the Invention. This invention is recited in independent claims 1 and 21, with specific features recited in the various dependent claims. The invention shown in FIGS. 1-9 is the subject of the parent application of the present application which issued as U.S. Patent No. 6,837,522 on January 4, 2005.

The manually operated adjustable pipe repair clamp tool 100 of the present invention includes a central body portion 102 having first and second opposed ends, with a second end generally comprising a handle 104 (page 13, lines 12-16). The tool 100 further includes a first pivot arm 110 having a first end pivotally coupled to the body portion 102 adjacent the first end thereof by means of a first pivot/coupling pin 106. The first pivot arm 110 further includes a second opposed end in the form of a clamp end 110a adapted for insertion in an aperture such as

shown as element 134 in the repair clamp's edge flange 130b in FIGS. 13-15 (page 14, lines 9-13). The tool further includes a clasp including a second pivot arm 112 pivotally coupled at one end to the central body portion 102 intermediate the first and second opposed ends thereof by means of a second pivot/coupling pin 108. A second, opposed end of the second pivot arm 112 includes the clasp, or clamp, end 112a adapted to engage an outer edge of a second edge flange of the repair clamp when the body portion of the tool is in a first non-use position and the repair clamp is loosely disposed about the pipe (page 14, lines 13-18). Pivoting displacement of the central body portion 102 about the first pivot arm 110 and the clasp-bearing second pivot arm 112 to a second position draws the repair clamp's edge flanges 130a and 130b together for securely maintaining the repair clamp on and in engagement with the pipe and allowing nut and bolt combinations to be tightened for securing the repair clamp to the pipe in a sealed manner (page 15, line 15-page 17, line 21). The inventive repair clamp installation tool 100 further includes an adjustable mechanism coupling the clasp-bearing second pivot arm 112 to the tool's central body portion 102 for adjusting the spacing between the first pivot arm 110 and the clasp-bearing second pivot arm 112 to accommodate a range of sizes of the repair clamp and diameters of a pipe (page 17, line 22-page 19, line 7). The capability of Applicant's inventive pipe repair clamp installation tool to accommodate repair clamps of various sizes and pipes having a wide range of diameters is its primary advantage.

The "adjustable means" recited in independent claim 1 and the "adjustable coupling means" recited in independent claim 21 includes an elongated slot 120 shown in FIGS. 10-16

disposed in the central body portion 102 of the adjustable repair clamp installation tool 100 and having plural engaging members 120a disposed in a spaced manner along the length of the slot for engaging a pivot/coupling pin 108 and establishing spacing between the installation tool's first pivot arm 110 and its clasp-bearing second pivot arm 112. The first pivot arm 110 includes an end 110a adapted for insertion in an aperture in a first edge flange of a repair clamp, while a clasp end 112a of the second pivot arm 112 is adapted to engage in outer edge of the repair clamp's second edge flange. In a preferred embodiment, the body portion 120 of the adjustable repair clamp installation tool 100 includes first and second spaced members 102a and 102b as shown in FIG. 10, with each of the spaced members including an elongated slot forming a portion of the "adjustable means", although only a single slot is shown in the figures for simplicity. The elongated apertures, or slots, 120 in each of the first and second elongated members 102a, 102b are described in the specification on page 13, line 21-page 14, line 9. Each of the engaging members disposed in a spaced manner along the length of each of the elongated slots 120 in each of the first and second elongated members 102a, 102b includes plural pairs of concave recesses 120a disposed in facing relation within the elongated slot. Plural pairs of these facing concave recesses 120a are disposed in a spaced manner along the length of each of the elongated slots. Each pair of facing concave recesses 120a securely engages pivot pin 108 in a releasable manner. The specific manner in which the facing pairs of spaced concave recesses 120a in each of the elongated slots 120 engages pivot pin 108 in a releasable manner is described in the specification on page 18, line 1-page 19, line 8, and is also described in the following paragraph.

The “adjustable means” recited in independent claim 1 and the “adjustable coupling means” recited in independent claim 21 in the repair clamp installation tool 100 includes a pair of elongated apertures 120 in each of spaced first and second elongated members 102a and 102b of the central body portion 102. The second pivot/coupling pin 108 is disposed in and extends through each of the elongated apertures 120 in the first and second elongated members 102a and 102b. Disposed on each end of the second pivot/coupling pin 108 is an attaching lug 116 which is elongated in shape and includes first and second opposed flat portions 124a and 124b and first and second opposed curvilinear portions 126a and 126b. With the attaching lug 116 oriented as shown in FIG. 11a, its first and second opposed curvilinear portions 126a and 126b engage respective facing concave recesses in the elongated aperture within the second elongated member 102b of the central body portion 102. In this configuration, the second pivot/coupling pin 108 is securely attached to opposed concave recesses of slot 120 and is fixedly positioned within the slot. This permits tension to be applied to the second pivot arm 112 as the installation tool’s central body is rotationally displaced about the first pivot/coupling pin 106 in a clockwise direction as shown in the various figures. By rotating the second pivot arm 112 relative to the central body portion 102, the orientation of attaching lug 116 may be changed to that shown in FIG. 11b. In FIG. 11b, first and second flat portions 124a, 124b of attaching lug 116 are shown in facing relation to the spaced concave recesses in the elongated aperture 120. In this configuration, attaching lug 116 may be displaced along the length of the slot 120 to change the spacing between the first pivot arm 110 and the second pivot arm 112. By changing the orientation of attaching lug 116 within slot 120,

the position of the second pivot arm 112 relative to the first pivot arm 110 may be adjusted according to the size of the pipe repair clamp 130 and the diameter of the pipe being repaired. When attaching lug 116 is located in the proper position within slot 120 to accommodate the size of the pipe repair clamp 130 and diameter of the pipe, the combination of the second pivot arm 112 and second pivot/coupling pin 108 and attaching lug 116 is rotationally displaced so that the curvilinear portions 126a, 126b of the attaching lug engage facing concave recesses at the desired locations within the elongated linear slot 120. By moving the attaching lug 116 leftward within slot 120 as viewed in FIGS. 11a and 11b, larger pipe repair clamps and larger pipe diameters may be accommodated. Conversely, by moving the attaching lug 116 rightward within slot 120 as viewed in FIGS. 11a and 11b, smaller pipe repair clamps and smaller diameter pipes may be accommodated by the adjustable pipe repair clamp installation tool 100 of the present invention. Although not discussed herein, a similar arrangement is disposed on the other end of attaching lug 116 and in the second elongated member 102b for changing the spacing between the first and second pivot arms 110, 112.

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 1-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,445,286 to Bosco in view of U.S. Patent No. 1,619,749 to Murray. In rejecting the two pending independent claims 1 and 21, the examiner relies upon the patent to Bosco as disclosing a body portion 13 having first and second opposed ends and an intermediate portion disposed therebetween, and an arm 14 having a first end pivotally coupled to the body portion by means of a

first pivot pin adjacent the first end thereof, with the arm further including a second opposed end adapted for insertion in an aperture in a first edge flange of a pipe repair clamp. The examiner further relies upon Bosco as disclosing a clasp 15 pivotally coupled to the body portion 13, intermediate the first and second opposed ends thereof by means of a second pivot pin, where the clasp is adapted to engage an outer edge of a second edge flange of the repair clamp for drawing the repair clamp's edge flanges together when the body portion undergoes pivoting displacement about the arm and clasp from a first position to a second position for allowing nut and bolt combinations to be tightened for securing the repair clamp to the pipe in a sealed manner. The examiner concedes that Bosco does not disclose an adjustable coupling means disposed in body portion 13.

The examiner relies upon Murray as disclosing an adjustable coupling means in the form of an elongated aperture 17, spaced notches 18 disposed along the length of the elongated aperture, a link lever 19, a screw or bolt 20 passing through the aperture 17 and disposed in one of the notches or recesses 18, and a winged nut 21 attached to the bolt 20 for retaining the link lever 19 against displacement from lever 15. The examiner concludes that because Murray relates to clamps, it would have been obvious to one having ordinary skill in the art to provide an adjustable means disposed in the body of Bosco to provide a dead lock for the lever when in operation as allegedly taught by Murray. In rejecting independent claim 21, the examiner has merely repeated the recitations of this claim and has not indicated specifically which portions of the two cited

references are relied upon as disclosing the claimed structures and cooperation and interaction of the claimed structures.

VII. Argument

Rejection under 35 U.S.C. 103(a) over U.S. Patent No. 1,445,286 to Bosco in view of U.S. Patent No. 1,619,749 to Murray

Independent claims 1 and 21

The patent to Bosco discloses an adjustable clamp including an elongated flexible element, such as a flat metal strip 3, for positioning about and retaining in position a concrete form comprised of plural planks 1 arranged in edge-to-edge abutting contact. The concrete form is of the type used in building concrete columns, joists and girders. See page 1, lines 8-12. Opposed ends of the flexible element 3 are respectively attached to first and second interlocking members 4 and 5 which are arranged in telescopic engagement. Each of the interlocking members 4, 5 includes a pair of spaced slots 7 adapted to receive and engage respective opposed ends of the flexible element 3. Thus, the form clamp of Bosco does not function as a repair clamp, but rather as a retaining mechanism for a concrete form comprised of plural abutting, aligned planks 1. The manner in which the interlocking members 4 and 5 are attached to opposed ends of the flexible element 3 at any point along its length provides the clamp with adjustability to accommodate molds of various sizes. See page 1, lines 81-85. Thus, it is the clamp in Bosco which is adjustable in size and not a tool 6 for installing the clamp, as in the claimed invention which is directed to an adjustable tool, or apparatus, for installing a repair clamp on a pipe.

Tool 6 comprises a lever arm 13 having arranged at one end thereof oppositely disposed claws 14 and 15 which are pivotally mounted by means of respective pins 16 and 17 to the lever arm. The axes of pivot pins 16, 17 are spaced apart from one another, so that the claws 14, 15 are drawn inwardly toward each other by movement of the lever arm 13 in one direction with either one or both of the pivot pins serving as a fulcrum for the lever. In operation, tool 6 is applied to interlocking members 4 and 5 of the concrete form clamp, with claws 14 engaging a pair of lugs 10 extending from the first interlocking member 4 and claws 15 engaging lugs 8 extending from the second interlocking member 5 as shown in the figures. By pivotally displacing lever arm 13 about either pivot pin 16 or pivot pin 17, flexible element (steel strap) 3 is tightened by drawing the first and second interfitting members 4, 5 into position to permit the insertion of a locking pin 12, such as a nail, through aligned apertures 11 in the interfitting members. Locking pin 12 is inserted through aligned apertures and driven into a batten 2 of the mold, allowing the detachable tool 6 to be removed while the clamp engages and holds the concrete form together. Thus, Bosco's clamp is secured to the structure being clamped by inserting a locking pin 12 through the clamp's interfitting members 4, 5 and into a batten 2 of the mold. See page 1, lines 96-103. The spaced apertures 11 in the two interfitting members 4 and 5 are not disclosed as providing an adjustable feature to accommodate concrete molds of different sizes as this feature is provided by the adjustable engagement of opposed ends of the flexible metal strap 3 by the two interfitting members. See page 1, lines 13-21. The close spacing of the pin receiving apertures 11 in the interfitting members 4 and 5 with respect to the width of the planks 1 of the concrete mold would not afford a size adjustable feature. Moreover, the "arm" recited in independent claims 1 and 21 is

described as having an end “adapted for insertion in an aperture in the first edge flange of the repair clamp.” In Bosco, the distal ends of claws 14 and 15 are not shown as disposed in, nor could they be inserted in, any of the apertures in the first and second interlocking members 4 and 5. Opposed ends of the flexible metal strap 3 are disposed in the slots 7 in the two interfitting members 4 and 5, so these slots could not receive one of Bosco’s claws. Moreover, each of Bosco’s claws 14, 15 includes a pair of spaced ends for engaging the spaced outer lugs on the two interlocking members 4 and 5. This pair of claws is not adapted for insertion in one of the aligned apertures 11. Even if the claws of Bosco could engage apertures in the two interfitting members of the clamp, the adjustable feature would still be in the clamp and not in apparatus for installing the clamp, as claimed.

In an attempt to show an adjustable feature in apparatus for installing a clamp, the examiner relies upon the patent to Murray which is not directed to apparatus for installing any kind of clamp, but rather is directed to the clamp itself. Murray does not disclose apparatus for installing a repair clamp on a pipe, but rather discloses a clamp intended to hold together the separable parts of a concrete mold, such as the type of concrete mold disclosed in Bosco. The Murray concrete mold clamp is not designed for, or capable of, installing another clamp on an object, or body. Also, Murray is not intended for, nor is it capable of, drawing together two objects or two parts of the same object as is the apparatus recited in pending independent claims 1 and 21. The Murray clamp serves the function of “clamping and retaining the mold parts or sections of a mold in fixed and spaced relation.” See page 1, lines 1-5. Even if the concrete mold

clamp of Murray is described in terms of apparatus for installing a clamp (as the examiner has attempted to do), which it is not, fundamental differences between Murray and the claimed repair clamp installation apparatus are clearly evident, as discussed below.

The Examiner relies upon the patent to Murray as disclosing adjustable means in the body portion of the apparatus as recited in independent claims 1 and 21. The Examiner specifically relies upon the combination of Murray's elongated aperture 17 having spaced notches 18 and a screw, or bolt, 20 disposed in the clamp's lever 15. However, there are various structural and operational details of the Murray patent which distinguish it from the claimed invention. For example, pending independent claims 1 and 21 recite that when the body portion of the apparatus is pivotally displaced about the arm and clasp from a first position to a second position, the clamp's edge flanges which are engaged by the ends of the claimed arm and clasp are drawn together. This is not the case in Murray, where pivoting displacement of lever 15 about pin 16 connecting the lever to a first jaw member 5 does not draw the first and second jaw members 5 and 6 together. Pivoting displacement of Murray's lever 15 about the end of first jaw member 5 causes a corresponding pivoting displacement of link lever 19 about the end of the second jaw member 6, but this does not draw the first and second jaw members toward each other. The spacing between the first and second jaw members is fixed by the position of pin 1 in the elongated aperture 9 in shank 8. Moving Murray's clamp to the configuration shown in FIG. 1 does not move the first and second jaw members 5, 6 together, nor does it draw together opposed side wall members 24 and 25 of the concrete form, it merely locks the clamp's first and second jaw members in fixed, spaced

relative position to maintain the mold parts or sections in fixed, spaced relation. See page 1, lines 1-14. Thus, this same pivoting displacement of Murray's lever 15 would not draw together two objects engaged by the first and second jaw members 5 and 6 of the Murray clamp as recited in claims 1 and 21. Moreover, if Murray were combined with Bosco as suggested by the Examiner, the pivoting coupling of Murray's link lever 19 to the second jaw member 6 would not permit the Bosco clamp to operate as disclosed in Bosco because there then would be two pivoting couplings between Bosco's first claw 14 and its lever arm 13 which would prevent Murray's first and second claws 14, 15 from drawing the clamp's interlocking members 4 and 5 together. In other words, to incorporate the structure in the Murray clamp relied upon by the Examiner in rejecting the pending claims would require the incorporation of a hinged coupling in Bosco's claw 15 which is not shown in Bosco and which would prevent this reference from operating as intended, nor would the combination suggested by the examiner operate as the apparatus recited in pending claims 1 and 21.

The discussion above distinguishes independent claims 1 and 21 from the combination of the Bosco and Murray references cited by the examiner. Thus, the rejection of claims 1 and 40 as well as the rejection of claims 2-20 and 22-40, which depend therefrom, should be withdrawn. However, because many of the details recited in the various dependent claims also are neither disclosed, nor even suggested, in either of the cited references, the following discussion is directed to differences between the recitations of various dependent claims and the disclosures of the two cited references.

Claim 2

In rejecting claim 2, the examiner alleges that Bosco discloses a clasp having a first end engaging an outer edge of the repair clamp's second edge flange and a second opposed end pivotally coupled to the adjustable means in the body portion of the apparatus. As pointed out above, Bosco's form clamp is adjustable by varying the length of the flexible metal strap element 3 between the clamp's interlocking members 4 and 5. The apparatus for installing the clamp is not adjustable. The second, inner end of Bosco's claw 15 which is pivotally coupled to lever arm 13 is not pivotally coupled to the claimed "adjustable means", or to anything that is adjustable. Bosco's tool is not adjustable and thus does not include "adjustable means."

Claim 3

In rejecting claim 3, the examiner states that Murray discloses a first pivot pin coupling the second end of the clasp (Murray's second jaw member 6) to the claimed "adjustable means" in the form of elongated aperture 17 having spaced notches 18 in lever 15. In rejecting claim 1, the examiner also relies upon elements 17-21 as disclosing the claimed adjustable means. However, the examiner ignores link lever 19 pivotally coupled to both handle 15 and the second end of jaw 6 for pivotally coupling these two members. Incorporating the equivalent of Murray's link lever 19 between the inner end of Bosco's claw 15 and Bosco's lever arm/handle 13 would render the Bosco tool inoperable because of the incorporation of an additional pivot point (pivot pin 11 in Murray) between Bosco's claw 15 and Bosco's lever arm handle 13 which would prevent Bosco's tool from operating as intended.

Claim 4

In rejecting claim 4, the examiner states that the engaging members in the adjustable means in Murray each include plural pairs of facing concave recesses disposed in a spaced manner along the length of the elongated slot. However, as clearly shown in Murray's FIGS. 1 and 2 and described on page 1, lines 58-73 and 102-109, the first elongated aperture 9 includes plural spaced notches, or recesses, 10 for receiving a pin, or bolt, 11, while the second elongated aperture 17 also includes plural spaced notches, or recesses, 18 for receiving a screw, or bolt, 20 for providing the adjustable clamp feature. This configuration differs fundamentally from the plural pairs of facing concave recesses disposed in a spaced manner along the length of the elongated slot for releasably engaging a pivot pin as recited in claim 4 and as shown in FIGS. 11, 11a and 11b for providing the adjustable feature in the claimed repair clamp installation tool.

Claim 5

The examiner states that Bosco in view of Murray discloses the claimed clasp as including a first hook disposed on a first end for engaging an outer edge of a repair clamp's flange and a second hook disposed on its second opposed end and positioned about a first pivot pin. The inner end of neither of Bosco's claws 14 and 15 is shown as comprised of a hook for connecting to a respective one of the pins 16 and 17. Each of Bosco's pins 16 and 17 is clearly inserted through apertures in claws 14 and 15, respectively. In Murray, the pivoting handle 15, link lever 19 and jaw 6 are connected by pivot pins inserted through apertures in each of these components as well as through apertures in each of the structural members to which these components are pivotally

connected. None of these structural elements is shown with a hook positioned about a pivot pin, as claimed.

The remaining dependent claims also recite patentable subject matter, particularly in view of the allowability of the independent claim from which each depends, but for the sake of brevity and cost, the remaining dependent claims are not discussed in detail herein. It should be noted that in rejecting dependent claims 2-20 and 22-40, the examiner has not identified where in either Bosco or Murray the additional elements recited in these dependent claims are disclosed. The examiner merely repeated the recitation in each dependent claim in the rejection of each of these claims.

The examiner emphasizes throughout the final rejection that the pipe repair clamp referenced in the preamble of independent claims 1 and 21 is not part of the claimed invention. The issue here appears to be the role that the recitation in the claim preamble of “Apparatus for installing a pipe repair clamp on a pipe” has in determining the limits of the claim. Apparently, it is the examiner’s position that this recitation in the claim’s preamble should be given no weight in determining the limits of the claim.

The determination of whether a preamble limits a claim is made in a case-by-case basis based on the facts of each case. One must look at the specific claims in question in a particular application to determine the role, if any, the recitations of the preamble have in determining the limits of the claim. “If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’

to the claim, then the claim preamble should be construed as if in the balance of the claim.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ 2d 1161, 1165-66(Fed. Cir. 1999).

The preambles of independent claims 1 and 21 are substantially identical and are necessary to give proper meaning to the description of the invention set forth in the body of the claim. Both preambles recite apparatus for installing a repair clamp on a pipe, where the repair clamp includes a generally cylindrical body having first and second opposed edge flanges. The repair clamp is further described as having a slot extending the length thereof for receiving the pipe and positioning the repair clamp about an outer circumference of the pipe, with plural nut and bolt combinations coupled to the edge flanges for drawing the repair clamp tightly about the pipe. Various structures recited in the preamble are discussed in the body of the claim in describing the structure and operation of the apparatus for installing a repair clamp on a pipe. More specifically, the repair clamp installation apparatus is described as having an arm with one end adapted for insertion in an aperture in a first edge flange of the repair clamp. Independent claims 1 and 21 further recite that the repair clamp installation apparatus includes a clasp having an end adapted to engage an outer edge of the other edge flange of the repair clamp. Operation of the repair clamp installation apparatus is described as drawing the repair clamp’s edge flanges together for securely maintaining the repair clamp on and in engagement with the pipe to allow the nut and bolt combinations to be tightened for securing the repair clamp to the pipe in a sealed manner. The claimed “adjustable means” is described as capable of adjusting the spacing between the arm and

the clasp of the repair clamp installation apparatus to accommodate a range of sizes of the repair clamp and diameters of the pipe with which the apparatus is used. The structure recited in the preambles of independent claims 1 and 21 is thus inextricably linked to the structure and operation of the pipe repair clamp installation apparatus described in the body of these claims.

The Court of Appeals for the Federal Circuit considered *In re Stencel*, 828 F. 2d 751, 4 USPQ 2d 1071, the question of whether a statement in a claim preamble of purpose or intended use constitutes a limitation for purposes of patentability. The case involved a claim with a preamble reciting a driver adapted to set a joint with a particular threaded lobed collar, where the driver turns the collar until the lobes of the collar are deformed by the driver when the collar is tight against a workpiece, with the collar and bolt then locked together. The question was to what extent, if any, do these recitations in the claim preamble limit the claimed invention. The Court ruled that recitation in the claim preamble of the collar having plastically deformable lobes on its longitudinal exterior was more than a mere statement of purpose and that language is essential to particularly point out the invention defined by the claims. The Court thus concluded that the limitations appearing in the preamble were necessary to give meaning to the claims and properly define the invention. This is the same set of circumstances that we have in the present case. In this case, the pending claims are directed to apparatus for installing a repair clamp on a pipe, with various details of the repair clamp recited in the preamble and then repeated in the body of the claim to give the claim meaning in terms of the components and operation of the claimed apparatus. To ignore these recitations in the body of the claim would render the claim without

meaning and incapable of defining the invention. Thus, to give the pending claims “life, meaning, and vitality”, the recitations in the claim preamble must be read as if in the balance of the claim where they are discussed in terms of the structure and operation of the invention.

The claims stand rejected as unpatentable over the combination of Bosco and Murray. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and must not be based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). There is no suggestion in either Bosco or Murray that it be combined with the other reference to arrive at the claimed invention. First, neither Bosco nor Murray has any relationship to any type of repair clamp, much less a repair clamp for a pipe. Second, neither Bosco nor Murray disclosed an adjustable tool for installing anything. There is no suggestion in Bosco that the tool for use with a concrete form is adjustable, could be made adjustable, or that it would be desirable to make it adjustable. Furthermore, there is no suggestion in either reference to combine it with the other, nor is there any reasonable expectation of success in either of these references that it could be successfully combined with the other to arrive at the claimed repair clamp installation apparatus. Bosco’s tool is designed for use

with the concrete form disclosed in that patent and would not work with the concrete form clamp of Murray. The Murray concrete form clamp clearly does not need a tool for installing the clamp on a concrete form and could not be installed using Bosco's tool. These two references teach away from one another because one concrete form requires an installation tool while the other does not. The combination of these references suggested by the examiner would not result in the claimed invention. A showing of a suggestion, teaching, or motivation to combine the prior art references is an essential component of an obviousness holding. See *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). Moreover, the Examiner can satisfy the requirements for a showing of obviousness of a combination only by showing some objective teaching in the prior art, or knowledge generally available to one of ordinary skill in the art, that would lead that individual to combine the relevant teachings of the references. *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). There is no suggestion in either of these cited references of apparatus for installing a repair clamp on a pipe or for an adjustable device for installing any type of clamp on anything. The combination of references relied upon by the Examiner must disclose all of the claimed elements in an obviousness rejection. *Motorola v. Interdigital Technology Corp.*, 43 USPQ2d 1481, 1490 (Fed. Cir. 1997). Because this is not the case here, the §103(a) rejection based on Bosco and Murray must fail.

The initial burden is on the Examiner to provide some suggestion in the prior art of the desirability of doing what the inventor has done. In the present rejection, the Examiner has merely located two isolated references which allegedly disclose separate portions of Applicant's

invention. The Examiner has failed to provide any support that either of the cited references expressly or impliedly suggests the claimed invention. More specifically, neither Bosco nor Murray disclose or suggest adjustable apparatus for installing a repair clamp on a pipe capable of use with repair clamps of various sizes and pipes of various diameters. Neither of these references disclose this essential feature of the claimed invention and thus neither of these references qualifies as either a §102 or a §103 reference. Nor has the Examiner presented a convincing line of reasoning as to why one skilled in the art would have found the claimed invention to have been obvious in light of the teachings of the references themselves. The Examiner is required to set forth a convincing line of reasoning leading to the obvious combination of the cited references. *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

It is respectfully submitted that the pending claims define patentable subject matter, and reconsideration of the allowability of these claims is respectfully solicited.

Respectfully submitted,

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VIII. Claims Appendix

1. Apparatus for installing a repair clamp on a pipe, said repair clamp including a generally cylindrical body having first and second opposed edge flanges, a slot extending the length thereof for receiving the pipe and positioning said repair clamp about an outer circumference of the pipe, and plural nut and bolt combinations coupled to said edge flanges for drawing the repair clamp tightly about the pipe, said apparatus comprising:

a body portion having first and second opposed ends;

an arm having a first end pivotally coupled to said body portion adjacent the first end thereof, said arm further including a second opposed end adapted for insertion in an aperture in the first edge flange of the repair clamp;

a clasp pivotally coupled to said body portion intermediate the first and second opposed ends thereof and adapted to engage an outer edge of the repair clamp's second edge flange when said body portion is in a first position relative to said arm and clasp and the repair clamp is loosely disposed about the pipe, wherein pivoting displacement of said body portion about said arm and clasp to a second position draws the repair clamp's edge flanges together for securely maintaining the repair clamp on and in engagement with the pipe and allowing the nut and bolt combinations to be tightened for securing the repair clamp to the pipe in a sealed manner, wherein said arm and said clasp may be disengaged and removed from the edge flanges and the apparatus removed from the repair clamp following tightening of the nut and bolt combinations; and

adjustable means disposed in said body portion for coupling said clasp to said body portion and adjusting spacing between said arm and said clasp to accommodate a range of sizes of the repair clamp and diameters of the pipe.

2. The apparatus of claim 1 wherein said clasp includes a first end engaging the outer edge of the repair clamp's second edge flange and a second opposed end pivotally coupled to said adjustable means on said body portion.

3. The apparatus of claim 2 further comprising a first pivot pin coupling the second end of said clasp to said adjustable means, wherein said adjustable means includes an elongated slot disposed in said body portion and having plural engaging members disposed in a spaced manner along the length of said slot for engaging said first pivot pin and establishing spacing between said arm and said clasp.

4. The apparatus of claim 3 wherein each of said engaging members includes a pair of concave recesses in facing relation within said elongated slot, with plural pairs of facing concave recesses disposed in a spaced manner along the length of said elongated slot, and wherein each pair of facing concave recesses securely engages said first pivot pin in a releasable manner.

5. The apparatus of claim 4 wherein said clasp includes a first hook disposed on its first end for engaging the outer edge of the repair clamp's second edge flange and a second hook disposed on its second opposed end and positioned about said first pivot pin.

6. The apparatus of claim 4 wherein said first pivot pin includes a first pair of opposed convex portions and a second pair of opposed flat portions disposed in an alternating manner about

its circumference, and wherein said convex portions are adapted for secure engagement with opposed facing pairs of concave recesses in said elongated slot for fixedly coupling said clasp to said body portion, and wherein said first pivot pin is movable along the length of said slot for repositioning said first pivot pin within said slot when the opposed flat portions of said first pivot pin are in facing relation to the opposed convex portions of said slot.

7. The apparatus of claim 6 wherein said body portion includes first and second connected members forming a handle at respective first connected ends thereof.

8. The apparatus of claim 7 wherein second opposed ends of said first and second members are arranged in a spaced manner from each other and wherein said arm and said clasp are disposed between said first and second members adjacent the second ends thereof.

9. The apparatus of claim 8 further comprising a second pin pivotally coupling said arm to said body portion, wherein said first and second pins are disposed between and coupled to said first and second members.

10. The apparatus of claim 8 wherein said adjustable means further includes first and second elongated linear slots respectively disposed in said first and second members with each of said slots having plural engaging members disposed in a spaced manner along the respective lengths thereof, and wherein the engaging members in said first slot engage a first end of said second pivot pin and the engaging members in said second slot engage a second opposed end of said second pivot pin.

11. The apparatus of claim 1 wherein said arm and said clasp are disposed in closely spaced, aligned relation when said body portion is pivotally displaced to said second position.

12. The apparatus of claim 1 further comprising a handle disposed on the second end of said body portion.

13. The apparatus of claim 12 wherein said handle is comprised of rubber or an elastomeric material.

14. The apparatus of claim 1 wherein the second end of said arm includes a hook structure for insertion into the aperture when said body portion is in said first position, and wherein said hook structure cannot be removed from the aperture when said body portion is in said second position for locking the repair clamp in position on the pipe.

15. The apparatus of claim 14 wherein said aperture is in the form of a slot and said hook structure includes first and second coupled flat portions having approximately 90° relative orientation.

16. The apparatus of claim 1 wherein said clasp is generally C-shaped and includes an elongated slot for engaging an outer edge of the repair clamp's second edge flange.

17. The apparatus of claim 1 wherein said apparatus is comprised of high strength steel.

18. The apparatus of claim 1 further comprising first and second pins attached to said body portion for pivotally coupling said clasp and arm, respectively, to said body portion, and wherein said second pin forms an axis of rotation about which said body portion rotates when moved between said first and second positions.

19. The apparatus of claim 18 wherein said first and second pins and an end portion of said clasp engaging an outer edge of the repair clamp's second edge flange are in general linear alignment when said body portion is in said second position.

20. The apparatus of claim 19 wherein the body portion is pivotally displaced about said second pin in moving said body portion from said first to said second position in removing said apparatus from the repair clamp.

21. Apparatus for installing a repair clamp on a pipe, said repair clamp including a generally cylindrical body having an inner liner and first and second opposed edge flanges, a slot extending the length thereof for receiving the pipe and positioning said repair clamp about an outer circumference of the pipe, and plural nut and bolt combinations coupled to said edge flanges for drawing the repair clamp tightly about the pipe, said apparatus comprising:

an elongated body having first and second opposed ends and an intermediate portion disposed therebetween;

an arm having a first end pivotally coupled to said body adjacent the first end thereof by means of a first pivot pin and a second opposed end adapted for insertion in an aperture in the first edge flange of the repair clamp;

a clasp pivotally coupled by means of a second pivot pin to said body intermediate the first and second opposed ends thereof and adapted to engage an outer edge of the repair clamp's second edge flange when said body is in a first position relative to the repair clamp and the repair clamp is loosely disposed about the pipe, wherein pivoting displacement of said body about said first pivot pin

in a direction away from the repair clamp's second edge flange to a second position relative to the repair clamp draws the second end of said arm and said clasp as well as the repair clamp's first and second edge flanges together, and wherein the inner liner and cylindrical body of the repair clamp are securely maintained in engagement with the pipe about its outer periphery allowing the nut and bolt combinations to be tightened for securing the pipe clamp to the pipe in a sealed manner, wherein said arm and said clasp may be disengaged and removed from the edge flanges and the apparatus removed from the repair clamp following tightening of the nut and bolt combinations; and

adjustable coupling means disposed in said elongated body for coupling said clasp to said elongated body while allowing for changing spacing between said arm and said clasp to accommodate a range of sizes of the repair clamp and diameters of the pipe.

22. The apparatus of claim 21 wherein said body includes first and second spaced, generally parallel members, with said first and second pins disposed between and coupled to said first and second members.

23. The apparatus of claim 21 further comprising a handle disposed on the second end of said body.

24. The apparatus of claim 23 wherein said handle is comprised of rubber or an elastomeric material.

25. The apparatus of claim 21 wherein the second end of said arm includes a hook structure for insertion into the aperture when said body is in said first position, and wherein said hook structure cannot be removed from the aperture when said body is in said second position for locking

the repair clamp in position on the pipe.

26. The apparatus of claim 25 wherein said aperture is in the form of a slot and said hook structure includes first and second coupled flat portions having generally 90° relative orientation.

27. The apparatus of claim 21 wherein said clasp is curvilinear in shape having a first end coupled to said second pivot pin and a second opposed end engaging the outer edge of the repair clamp's second edge flange.

28. The apparatus of claim 27 wherein the second end of said clasp is generally in the form of a hook.

29. The apparatus of claim 21 wherein said apparatus is comprised of high strength steel.

30. The apparatus of claim 21 wherein said first pin forms an axis of rotation about which said body rotates when moved between said first and second positions.

31. The apparatus of claim 27 wherein said first and second pins and the second end of said clasp are in general linear alignment when said body is in said second position.

32. The apparatus of claim 21 wherein said adjustable means changes spacing between said arm and said clasp, bringing said arm and clasp closer together for smaller pipe clamps and pipe diameters and moving said arm and clasp apart for larger pipe clamps and pipe diameters.

33. The apparatus of claim 32 wherein said clasp includes a first end engaging the outer edge of the repair clamp's second edge flange and a second opposed end pivotally coupled to said second pivot pin.

34. The apparatus of claim 33 wherein said adjustable means includes an elongated slot disposed in said body portion and having plural engaging members disposed in a spaced manner along the length of said slot for engaging said first pivot pin and establishing spacing between said arm and said clasp.

35. The apparatus of claim 34 wherein each of said engaging members includes a pair of concave recesses in facing relation within said elongated slot, with plural pairs of facing concave recesses disposed in a spaced manner along the length of said elongated slot, and wherein each pair of facing concave recesses securely engages said first pivot pin in a releasable manner.

36. The apparatus of claim 35 wherein said clasp includes a first hook disposed on its first end for engaging the outer edge of the repair clamp's second edge flange and a second hook disposed on its second opposed end and positioned about said second pivot pin.

37. The apparatus of claim 35 wherein said second pivot pin includes a first pair of opposed convex portions and a second pair of opposed flat portions disposed in an alternating manner about its circumference, and wherein said convex portions are adapted for secure engagement with opposed facing pairs of concave recesses in said elongated slot for fixedly coupling said clasp to said body portion, and wherein said second pivot pin is movable along the length of said slot for repositioning said first pivot pin within said slot when the opposed flat portions of said first pivot pin are in facing relation to the opposed convex portions of said slot.

38. The apparatus of claim 37 wherein said body portion includes first and second connected members forming a handle at respective first connected ends thereof.

39. The apparatus of claim 38 wherein second opposed ends of said first and second members are arranged in a spaced manner from each other and wherein said arm and said clasp are disposed between said first and second members adjacent the second ends thereof.

40. The apparatus of claim 39 wherein said arm and said clasp are disposed in closely spaced, aligned relation when said body portion is pivotally displaced to said second position.

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IX. Evidence Appendix

None

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X. Related Proceedings Appendix

None.